A participatory approach for digital documentation of Egyptian Bedouins intangible cultural heritage

GIGLITTO, Danilo, LAZEM, Shaimaa and PRESTON, Anne

A Participatory Approach for Digital Documentation of Egyptian Bedouins Intangible Cultural Heritage.

Danilo Giglitto[1], Shaimaa Lazem[2], Anne Preston[3],

[1] Cultural Communication and Computing Research Institute (C3RI), Sheffield Hallam University, UK
d.giglitto@shu.ac.uk
[2] Informatics Research Institute, City for Scientific Research and Technological Applications (SRTA-City), Egypt
slazem@srtacity.sci.eg
[3] UCL EAST Programme, University College London, UK
anne.preston@ucl.ac.uk

Abstract. The Bedouins of Egypt hold a unique intangible cultural heritage (ICH), with distinct cultural values and social practices that are rapidly changing as a consequence of having settled after having been nomadic for centuries. We present our attempt to develop a bottom-up approach to document Bedouin ICH. Grounded in participatory design practices, the project purpose was two-fold: engaging Egyptian Engineering undergraduates with culturally-distant technology users and introducing digital self-documentation of ICH to the Bedouin community. We report the design of a didactic model that deployed the students as research partners to co-design four prototypes of ICH documentation mobile applications with the community. The prototypes reflected an advanced understanding for the values to the Bedouins brought by digital documentation practices. Drawing from our experience, three recommendations were elicited for similar ICH projects. Namely, focusing on the community benefits; promoting motivation ownership, and authenticity; and pursuing a shared identity between designers and community members. These guidelines hold a strong value as they have been tested against local challenges that could have been detrimental to the project.

Keywords: Students-Led Design, Cultural Heritage, Mobile Technology, Prototype, Community Engagement, Education, Training

1 Introduction

Intangible cultural heritage (ICH) is the part of cultural heritage that includes "the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith" [1]. In the last decade, a bottom-up approach to cultural heritage's identification, collection, and management – which promotes an extension of the involvement of local communities whose members may not have an acknowledged expertise in the field of cultural heritage [52, 54] – has become the new paradigm informing most intellectual and practical efforts around intangible cultural heritage (ICH). Even UNESCO – which had been criticised for its top-down tendencies and expert-driven approach [8, 40, 55] – has recently recognised the crucial role of communities in ICH endeavours in the 2003

Convention for the safeguarding of intangible cultural heritage [60]. This new paradigm is based on the core idea that ICH could and should be adequately expressed within community-based heritage activities [48], and is nowadays largely followed by academics, heritage organisations, and public bodies interested in ICH documentation and safeguarding [58].

The use of the Internet and the advancement of digital technologies have greatly benefited the cause of community-led ICH projects. In the last ten years, we have been witnessing an unprecedented amount of community-led and digitally-mediated ICH projects [14, 28, 58], signifying a definitive passage to ICH information being generated and discussed at grassroots level [2]. However, there are still issues that are deeply rooted in the quality of community engagement and grassroots participation as well as the usability of technology. Academics from a range of disciplines, including social sciences and human-computer interaction (HCI), are working to identify and solve a variety of issues that affects to different extent many community-led ICH digital projects. Some examples of these issues are a lack of assessment of users' needs and expectations [7, 49]; digital illiteracy barriers [18, 58]; an only apparent or partial engagement [24]; the prevalence of individual agendas [48]; and the creation of new divisions within a community [32]. A certain degree of optimism can be, however, afforded. These problems are being taken seriously by researchers from different backgrounds, whose own established practices reveal the barriers to an ideal engagement and the limitations of the proposed digital platforms.

Both tendencies described here – that combined equals to more and more efforts produced towards the self-documentation of ICH through digital means – are underdeveloped in Egypt, and most of the work has been done at a state or international level [35]. The main example is perhaps the 'Mediterranean Living Heritage Project (MedLiHer)', aimed at supporting the implementation of the 2003 Convention in Egypt and other Middle-eastern countries [63]. Whilst the cultural heritage of the country is more prominently known for the archaeological artefacts of Ancient Egypt, the cultural identity of Egyptian people is also proudly interwoven with Arab ICH [4], in a rich and composite scenario. International efforts have recently started to acknowledge the rich Egyptian ICH. In 2008 and 2016 respectively, UNESCO inscribed the Al-Sirah Al-Hilaliyyah epic[1] [61] and the Tahteeb stick game[2] [62] to the above-mentioned Convention.

Arguably, collaborations occurring at an international level will bring in resources and capabilities that may benefit ICH mapping, safeguarding, and documenting. These approaches, however, may lead to the formation of a postcolonial setting [66], in which Western experts and methodologies are deployed to identify what is worth safeguarding in developing countries. In fact, the efforts for Egyptian ICH are yet to fully leverage community-based practices.

Our research aims at filling the gaps of defying postcolonial international collaboration efforts and ensuring community involvement. More specifically, we deployed – with the assistance of engineering students as research partners and using user-centered design activities – an approach that directly involved the community members of the Bedouins from North-Central Egypt in the selection of ICH instances that are meaningful to them, and in the design of suitable mobile applications for self-documentation. In order to make this bottom-up and digitally-mediated approach sustainable, we needed to develop local expertise of software development and entrepreneurship so that technologies appropriate for the community's needs and cultural specificities could be designed and sustained locally.

[1] The *Al-Sirah Al-Hilaliyyah* epic is an oral poem recounting the migration of the Bani Hilal Bedouin tribe during the 10th century [61].

[2] The Tahteeb is a festive game descending from a form of martial arts perform in Ancient Egypt [62].

The project serves the purpose of bridging the social-technical gap within the Egyptian society and its higher education organizations through: a) examining the configuration of an extensive participation of the Bedouins in the design of an inclusive technology to document their ICH; b) using a unique case study to teach social technology design to technically-oriented engineering students [41]. The students experienced direct interaction with a non-typical user group, which meant that user participation and engagement were at the heart of the project to gain the community members' trust and acceptance for their proposed technologies. This article, therefore, also aims at contributing some insights into the growing literature furthering the agenda about enhancing the design skills of undergraduates [9, 15, 38]. We have summarised some of the biggest challenges we faced – primarily revolving around the power dynamics between facilitators and students as well as around the cross-cultural dimension between students and Bedouin participants – elsewhere [33].

2 The Bedouins of Borg El Arab

This section provides background information about the Bedouins synthesized from the literature and the ethnographic work done within the scope of this project to better describe the cultural distance between this group of users and the students-designers.
The word "Bedouin" comes from the Arabic *badawi*, meaning "inhabitant of the desert" [20, 47]. The word is also an antonym of adjectives such as "sedentary" and "civilised" [20]. A manifold of tribes has inhabited every Arab country in Southwest Asia and North Africa since ancient times [20, 47]. Many genealogy lineages have formed through the centuries. For a long time, being a Bedouin meant a way of life, characterised by a nomadic lifestyle and breeding of a variety of animals, such as goats, sheep, camels, and horses [20]. These practices were usually accompanied by distinctive cultural and social occurrences, such as the parallel cousin marriage, separated law system, distinguishing clothing, tattooing, hairstyling and hairdressing, and typical poetry, music, and dances [1, 16, 17, 20, 47].
Nowadays, Bedouins all over the Arab world are going through a period of transitions. Most tribes have abandoned their nomadic lifestyle and taken standard jobs due to external forces, such as draughts in Syria [25], the development of the oil industry in Libya [20, 21], the policies of privatisation of land ownership [20], and the dismemberment of the tribes by colonialist enterprises [20]. For the Bedouins, these phenomena have meant going through a rather complicated process of integration into more urbanised Arab societies and the adoption of an urban lifestyle.
Although the dissolution of the traditional Bedouin way of life, the Bedouin identity persists. As Cole argues [20], even the meaning of the word "Bedouin" is changing consistently with how national and global trends have affected these communities:
"Bedouin" previously denoted a way of life that was specialized and revolved around steppe-based herding. Today, "Bedouin" refers less to a "way of life than to an "identity". The way of life was grounded in ecology and economy, the identity in heritage and culture. (p. 237)
The actualisation of a proactive resistance against a complete assimilation stems from the great pride that has always characterised being a Bedouin [3, 5]. This pride is fostered by the peculiar adapting and surviving skills developed through the centuries and celebrated in many cultural manifestations [5]. The risk intrinsic to maintaining their cultural identity while going through a process of integration – which holds elements of assimilation, too – is to end up disenfranchised in the mainstream cultural system. This is already happening in several tribes, such as the Bedouins from Southern Israel [13].

The Egyptian Bedouins from Borg El Arab – an industrial city in the Alexandria Governorate – are no different in this regard. This group is composed of several tribes living in different geographical areas outside the city. We engaged with community members from different tribes, and one tribe in particular that has settled in *Nagae*[3] [1]. These tribes descend from the Arab Gharb once occupying the Western Desert of Egypt. These people look with nostalgia at the set of traditions, habits, skills, and craftsmanship that have been fading away as a consequence of having settled and abandoned desert life. Changes in their society is the most common topic of conversation with people outside the community, followed by how they are misrepresented by the 'Bedouins trails' sold by tourism agencies and the unauthentic Bedouin recipes found in certain Egyptian restaurants.

Two main trends emerge that explain the fading of customs and traditions. Firstly, the ageing population includes the gatekeepers of the most distinctive ICH of Bedouins. Conversely, young people are losing interest in those heritage manifestations, distracted by the outlook to the outer world offered by the Internet and technology. This mismatch in interest between the oldest and the youngest generations seem to be occurring across cultures and borders [43, 59, 64] and does not spare the Bedouins of Borg El Arab. One old lady told us that she used to dedicate two hours every morning to tell her children everything that had happened in her life. This social practice is no longer in use. The abandonment of storytelling represents a significant loss in terms of intergenerational transmission of ICH, cultural, and social values.

The second trend concerns the consequences of having become a settled community. Certain skills linked to nomadic and desert life – such as their mastery of transportation by camels and trace tracking – are no longer practised. Besides, several customs are subject to the influence of either other cultures – such as the Salafi's – or the wider Egyptian society. Marriage celebrations are much shorter than they used to be. This is also causing the loss of the improvising skills held by the women, who used to perform the Shatawaa – an improvised song that conveys a message to another woman, who can reply with another improvised song – during long marriage celebrations and festivals. Furthermore, the adoption of standard kitchens has led to the disuse of the culinary traditions born out of the use of a bonfire. Getting more and more integrated into the Egyptian social fabric also means the abandonment of customs linked to appearance, such as face tattooing and wearing traditional clothing.

Even though it seems inevitable that some traditions and customs related to a more traditional lifestyle will disappear as the Bedouins embrace more urban and modern habits, the cultural and historical value that these people perceive about their ICH is evident. Technology can certainly play an important role in facilitating the self-documentation of this heritage, which in turn could enable the juxtaposition of the unauthentic Bedouin heritage promoted by others for profit. The Bedouins themselves lament the lack of content regarding their music and poetry on the Internet. The unstoppable winds of change that are affecting the community – together with the lack of opportunities to publicise self-produced ICH material – are the reasons why the Bedouins recognise the necessity of stepping up in taking care of their ICH. As a natural consequence, they warmly welcomed our attempt to explore Bedouin ICH and our subsequent proposition to collaborate in the design of four mobile apps for ICH self-documentation. Despite the Bedouins' willingness to participate, the engagement practices had to be planned in a way that made the Bedouins not feel challenged by the proposed tasks, as early fieldwork revealed a non-exploratory mindset and the reluctance to partake in activities they did not fully understand from the outset.

[3] *Nagae* refers to a group of households built close to each other usually dwelled by an entire tribe.

3 Methodology

3.1 The context of the research

The context of the research was a summer school that ran for eight days in August 2017 at the City for Scientific Research and Technological Applications (SRTA-City) in New Borg El Arab, Egypt. The school addressed technology design for ICH documentation that served the needs of the Bedouins from North-Central Egypt. The school resulted from shared efforts between SRTA-City (Egypt) and Kingston University London (UK). This collaboration aimed at sensitising 18 engineering students from Alexandria University, Egypt, interested in using HCI towards the application of new skills and competencies in the field of ICH. The theme of the school – enabling self-documentation of Bedouin ICH through mobile technologies – was designed to bring to the forefront and merge on the standout research priorities in HCI and ICH. The HCI-related priority lies in the attempt of exposing the students to culturally-distant users, so as to encourage them to explore a distinctive cultural heritage while revisiting potential assumptions about typical mobile phone users. The ICH priority refers to the fading away of Bedouins' customs because of the consequences of having settled, which represented an important motivational basis for community participation.

3.2 Recruitment

The recruitment of the community members started off with the Bedouins working at SRTA-City, who extended the invitations to other community members. The recruited members were from different tribes, which gave access to a more representative sample for the wider community of the Bedouins settled in Borg El Arab. For the design process, we recruited five adult males and one female. Three of them had postgraduate degrees, while the others had primary or secondary level qualifications, holding low-literacy skills. For the exploration of Bedouin ICH, the students were invited by the community to visit the Nagae El-Sanakra. The Bedouins wanted for the students to get to know three generations of Bedouins so as to get a glimpse of the cultural changes over time. Eighteen engineering students (11 males, 8 females) between 21 and 23 years old from Alexandria University joined the school. This cohort of students tend to develop technically-oriented mindsets and be less appreciative for the topics they classified as "humanities", including HCI, which framed the importance for such summer school in order to develop HCI in that context [41]. Neither the students nor the facilitators had first-hand knowledge about the Bedouins.

The students compiled an online application that tested their knowledge and interest about HCI and ICH. The responses so gathered were ranked by the facilitators according to the following criteria: a qualitative assessment of the strength of the motivation to join the school, a qualitative assessment of the interest shown in learning about HCI and ICH, Grade Point Average (GPA), and age (as the youngest students were privileged over the students closer to graduation).

3.3 Students as research partners

The concept of students as partners (SaP), in this case in a research project, has gained ground as a well-known concept which permeates particularly in Higher Education in the UK, US, Canadian and Australian contexts [34]. It is a specific approach, developed in these contexts which aims to develop practices of involving students as co-producers and co-designers within contexts directly relating to their education and

learning. SaP is defined as a "collaborative, reciprocal process through which all participants have the opportunity to contribute equally, although not necessarily in the same ways, to curricular or pedagogical conceptualization, decision making, implementation, investigation, or analysis" [22].

Typically, the involvement of students brings their voice into these developments. At the core is the notion of ownership whereby, as opposed to education being 'done to' the student, they play an active role as key stakeholders and beneficiaries of the educational process and their development. By engaging with students as partners in the research process in this project, we sought and encouraged students to proactively and positively displace the notion of ownership both in the way the school activities were designed as learning experiences and in how they worked with the Bedouins as researchers as opposed to participants in 'our' research.

Whilst we were inspired by the wealth of well-developed research around SaP in the UK and elsewhere, we were also well aware that the research and its students' co-researchers were involved in a context where the typical identities of faculty, staff, and students were not necessarily as evident or clear-cut in the set-up of the project as a community-driven and in the kinds of activities the student co-researchers would engage in. Indeed, one area which is less considered and made less explicit in the SaP concept literature and practice is the benefits student partnership and involvement can bring to the students themselves [44, 56] beyond the more generalised improvements to educational design (such as more student-centred systems or processes). Outside the immediate SaP frameworks, more educational and personal gain to students as beneficiaries of research processes can be found in work which adopts participative methods and cross-cultural educational research, particularly in non-Western contexts [39, 45, 51]. We were also inspired by this work and although our project was not directly designed to adopt the depth of reflected research of that nature, we certainly drew parallels between our work and its values, such as the positive disruption of typical student-researcher dynamic where students are typically the subjects of the research rather than active participants.

This meant two things for the project. Firstly, in the learning experiences for the students we sought to develop a pedagogy 'from below' whereby the school design was specifically aimed at generating local learning outcomes for the students which directly impacted on their own project work. This then fed into the design and our facilitation of the activities on the following days. Besides the learning process, the students thus conducted the research activities that are described in the next section, too, producing an ethnography of the Bedouins and creating the personas for the prototypes design, among others. Secondly, one of the consequences of the involving students as partners in the summer school design was that they were then better prepared to develop their own understandings and views which would evolve throughout the project with reference to the project approach and aims to develop understandings of engagement in digitally-informed ICH documentation with unique ICH. In doing so, these localised perspectives framed their subsequent involvement and participation with the Bedouin community, where they were also research partners with other members of the project team and our beneficiaries, the Bedouins.
Having local students as research partners also enabled the project to address one practical and one potential hindrance related to the community of users engaged. Firstly, the linguistic barriers (the Bedouins speak in an Arabic dialect) were easily overcome by the deployment of the students in the field and in the user-centered design process. Without this arrangement, this barrier could have been insurmountable for most of the members of the international team reporting this research. Secondly, the Bedouins were very well-disposed towards collaborating with the students, and keen on mentoring them in the discovery of their culture and use of technology.

To achieve this, we designed the summer-school curriculum so that students would gradually and with a certain degree of autonomy build a partnership with the Bedouins, while the facilitators dealt with scaffolding and advising them throughout. Naturally, this approach opened the door to some anticipated challenges. Besides the issues revolving around the power dynamics between facilitators and students as well as around the cross-cultural dimension between students and Bedouin participants that we have summarised elsewhere [33], we had to overcome some initial resistance related to the self-exploratory and self-learning aspects of the school. In fact, some students would have preferred a more traditional and, for them, much more common frontal learning experience so as to "feel" more prepared. This feeling gradually faded away as the students started to perceive the progresses they were making with engaging the community and refining the themes for the design.

3.4 Research activities

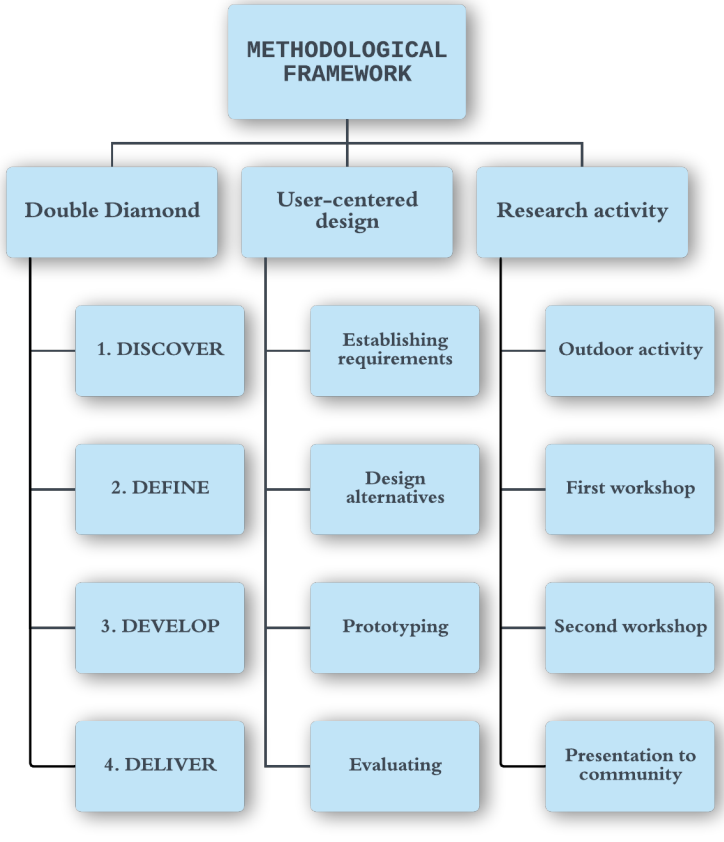

Fig. 1. The methodological framework of the research.

The school was designed to create a cultural experience for the Bedouins and the students based on mutual learning and understanding facilitated by participatory

approaches to technology design. We adopted a methodological framework resulting from a combination of the Double Diamond model [12] and a user-centered design process [36, 57]. The Double Diamond is a design process model developed by the UK Design Council. It includes a four-stage model – Discover, Define, Develop, and Deliver – with every two phases forming a diamond shape [12]. As the model suggests, we focused the first and third phases on exploration (respectively, on Bedouin ICH discovery and design-led solutions), while the second and fourth were for narrowing the scope and defining focus (respectively, for understanding the users and presenting back to the community members). In doing so, we adapted each of the stages of the Double Diamond model to the four stages of the user-centered design [57] (Fig. 1).

The first three research activities of our methodological framework conducted by the students – the outdoor activity and the two workshops – are here described. These activities represented the main sources of data – regarding Bedouins' ICH and use of mobile technology – to inform the design of the prototypes. The students were trained in participatory design methodology [65], in line with the clear goal of involving the Bedouins into the design process rather than solely resigning them to the role of technology users. In the fourth activity, the students presented their prototypes to community members in the presence of the instructors and a broader audience with a computer science background. Community members had the chance to discuss the prototypes and provide direct feedback to the students.

The research techniques deployed by the students – to which they were priorly trained and mentored throughout the school – were ethnography, interviews, and cultural probes [11]. These techniques served the purpose to answer the core research question related to how to achieve a significant participation of the Bedouin community from North-Central Egypt in a digitally-informed ICH documentation project. Significant participation refers to a factual contribution to the decision-making processes about the suitable technology designs to adopt as well as which ICH manifestations needed prioritising in terms of safeguarding and documentation.

Given the multidisciplinary nature of the project, the students divided themselves into four groups by basing the selection on fulfilling different criteria such as background, commitment, and skills (coding, designing, qualitative methods, communication, etc.).

Outdoor activity. Ethnography is widely used in participatory design [46] for its effectiveness in enabling users' participation in design [23] and in getting a deeper understanding of users' perspective in an everyday setting [10]. Simultaneously, the recent inclusion of people and their actions in the definitions of ICH has made the use of qualitative approaches – and, in particular, ethnography – the standard method for research around community and ICH [26].

Given the prominence of ethnographic in the two fields, our research process included participant observations and 'ethnographic interviews' [19] as two of the major techniques for investigating the fading aspects of Bedouin ICH and the way in which technology could tackle this issue. The outdoor activity occurred on the second day of the school in a place chosen by the Bedouins. The training was designed in such a way that the students first attended interactive lectures about ethnographic notetaking and, within this, the difference between observation and interpretation was explained. Additional hands-on exercises were designed to refine the observational skills of the students and consolidate their knowledge about ethnographic data.

After the trip, 18 qualitative reports answering specific questions about the Bedouins and 18 ethnographic diaries – which reported on the observations made by students while spending a day with the Bedouins in one of their cultural environments – were produced. This material was treated with content analysis within a meta-ethnographic approach [37]. The findings stemming from this analysis represented the

core knowledge the students held about Bedouin ICH. This material served the purpose of providing a variety of instances of endangered Bedouin ICH from their perspectives from which to select suitable ICH themes to base the functionalities of the prototypes on. As suggested by other scholars [53], the translation of cultural heritage into digitised forms could never entirely and holistically cover the complexity of it. Both students and Bedouins developed, to a certain extent, such awareness throughout the school. As such, they negotiated possible digitally-mediated narrations based on a combination of prioritised ICH instances from the Bedouins' perspectives and technical suitability from the perspectives of both students and facilitators in consideration of the school constraints.

First workshop. The first workshop with the community members occurred on the fourth day. After having broadened the knowledge about Bedouin culture and lifestyle through the collection of fieldwork data, it was time to narrow it down into more specific insights and solutions for the design. The workshop saw the collaboration of each group with one or two representatives of the Bedouin community. During the previous day, the students were sensitised towards embracing an emphatic design [36] that could lead to a deeper understanding for users and their realities, thoughts, and feelings. In addition to icebreakers and conversation starters, the students prepared semi-structured interviews beforehand to refine the ethnographic data collected during the trip, and cultural probes [11] for the Bedouins to take home, respond to, and bring back at the second workshop.

At this stage, the qualitative interviews were used to discover more about family traditions and Bedouin music, song, and poetry. The students were mentored into formulating their questions in a sensitive way (without judging the culture or questioning the answers) and identifying investigative dimensions related to family traditions, such as marriage celebrations, rituals, and family gatherings. All four groups went beyond a mere selection of ICH practices, and asked questions aimed at investigating how these were intersected with values and nostalgia as well as external influence, social use, and internal differentiation in the cultural production.

The cultural probes [11] – two of which will be reported later – were designed as physical objects containing tasks to investigate around more specific aspects of Bedouin ICH (probes as data collection) and to support their engagement with the design process (probes as participatory). Interviews and probes enabled the students to narrow their focus and collect ideas for the design of the prototypes.

Second workshop. Between the two workshops, the students went through a process that we called 'From data gathering to design ideas'. Each group had to write down as many observations and thoughts stemming from the ethnography and the interviews as they could, and then apply a thematic analysis to generate answerable questions for the design of ICH documentation apps and potential solutions.

This stage led to the creation of personas [57] of the target users and low-fidelity prototypes consisting of cards explaining how the mobile applications could help the target users achieving their ICH-related goals. This material was submitted to the review of the Bedouins during the second workshop, who also brought back the probes with the fulfilled tasks. The discussion with the community members grounded in the empirical material available resulted in the final refinement of prototypes, which represented a reflection of the Bedouins' perspective in terms of functionality, use, and purpose.

4 Translating Bedouins' aspirations for ICH documentation into technology prototypes

The three participatory activities with the community resulted in four mobile applications prototypes. The prototypes manifest the students' understanding of how ICH was being lived in the community. The students went beyond using technology to merely create a digital archive for ICH to develop an understanding for the values brought by digitally documenting this heritage to the Bedouins, such as correcting the wider society misconceptions about the community or teaching the new generations the lessons they learned from living in the desert. The proposed designs incorporated the community views and ambitions on using technology to archive, authenticate, preserve, and disseminate their ICH.

The four following subsections will report different levels of details for each prototype, as the four groups of students reached different depths in their designs. We describe the heritage-related and user-related features of the prototypes as co-created by the students-designers and their community participants.

4.1 Prototype 1: Old People Stories or "Haky Sheyyab"

This design of Haky Sheyyab responded to a recurrent concern of the community members about the information available regarding the Bedouins being mostly inaccurate. During the research activities, the Bedouins showed a feeling of cultural misrepresentation within the wider Egyptian society and beyond. To counteract it, this team imagined an online platform hosting authentic information and perceptions provided by the Bedouins themselves.

The students designed a prototype for a mobile application based on two main principles: authenticity and user-friendliness. These two principles were followed through the attempt to present the app as Bedouin-friendly by paying careful attention to the Bedouins' cultural pride that had emerged. The idea was to put in place a system to authenticate the documented information about Bedouins. This was motivated by the Bedouins' scrupulous attention towards correct information about themselves and their culture. The main screen automatically ran a video recorded by the Bedouin participant with their distinguished accent saying: "Old People Stories is a program that aims at introducing the heritage of North-Central Bedouins to the 'others'". The few screens that followed featured scenes from the Bedouin cultural and social environment, for instance a tent.

The authentication idea was provided by the Bedouin participant in the second workshop. The authentication process consisted of questions whose answers were allegedly only known by indigenous Bedouins. The application user had to answer correctly to access the documenting process enabled by the app, figure 2. The questions regarded aspects of Bedouin ICH, such as the components of Bedouin tents in their local language or their local food, with three possible answers to choose from. The students added the option for a non-Bedouin to navigate the documented information and potentially fulfil their curiosities by asking questions to the Bedouins.

The design attempted to acknowledge the Bedouins' pride in their heritage and the tendency to be generous in providing information if they sense sincere interest from the audience. The design accommodated this generosity by adopting the theme "sharing with the others" instead of "document". Information sharing was allowed via audio, photos, or text and it could occur in response to a question posed by another user.

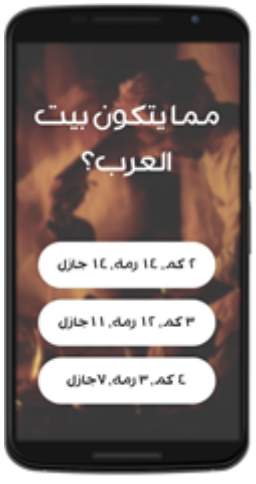

Fig. 2. The authenticating question with three possible answers.

4.2 Prototype 2: Archiving Bedouin poems

This group focused on Bedouin poems, which were identified by the Bedouins as one of the cultural heritage practices about which they care the most. They described their poems as unique as well as in a real danger of fading away. Old Bedouins narrate many aspects of their heritage using sung poems. They mastered improvised poems that would tell about all aspects of their lives (sheep, land, romantic life, etc.). Every occasion in a Bedouin life presents an opportunity for poetry, whose words and structures vary between families or groups of families. This skill, however, is fading away as the new generations no longer practice improvisation whilst distracted by foreign music genres. As one participant explained:

"*During weddings, the place is divided into elders and young generations. The elder people listen to the Bedouin music and the younger ones listen and dance to other music. For example, once I was in a wedding and the younger people were listening to* Despacito *and other foreign songs*."

Overall, the community is open to listening to non-Bedouin songs other than Bedouin, yet they consider their sung poems – which are an essential component of Bedouin music – something distinctive and unique, because:

"*Bedouin songs tell a story, so you feel the conclusion at the end, differently from the recent songs from the city where you can't focus on a specific topic*."

Poems are deeply rooted into Bedouins' culture, to the point that these artistic expressions are even used to settle arguments between two poets (similarly to what happens in rap fights). During the trip to the Nagae, an old lady told the team that they had been trying to audio record and archive poems performed in weddings, a task that could have been facilitated by a dedicated mobile application. To explore the cultural

configuration of musical poems within the community, the group designed a cultural probe based on a family tree. In there, the participant had to report names, ages, and kinships of each family member, besides the level of interest in and knowledge about Bedouin music using a colour code. The aim of this probe was to explore around the stratification of Bedouin songs in terms of distribution of knowledge and changes over time through a self-rating system. Both the interviews and the probe exercise confirmed the interest and showed acceptance towards using technology to self-document Bedouin poetry and songs. The design of the resulting prototype allowed two types of usages: a documenter and a regular user. The first was the person who would document the ICH, while the second could browse and comment on the inputted material. Due to time constraints, the group designed user interfaces for the documenter-user only.

The design of this prototype was wary of the possibility of the documenter being an elder and illiterate Bedouin. For this reason, the prototype featured voice command and text-to-speech options. To support a login process that did not require access to email accounts, the login was reduced to the act of filling in name and age either by voice or text, and the tribe name only by text. After doing so, the application would automatically generate a numerical password that the documenter had to provide every time to sign in.

Various documenting options – such as videos, photos, records, links, and text – and types of poems were offered to facilitate the documenter's job.

The regular user interface was envisioned to provide whoever browses the content with all the documents that were archived in the app. The content could be browsed by the tribe's name or type of ICH manifestation, and did not require any form of authentication or signing in.

4.3 Prototype 3: Buy Bedouin or "Eshtery Badawy"

This design led to an online platform to market Bedouin handcrafted products such as carpets, herbs, food, various clothes, or arranged safari tours. The students envisioned that technology could help the community retain (or revive) their handcrafting traditions lifestyle if a new market was open for their peculiar products. Old women used to produce gowns, bags, purses, belts, wallets and forth on that served the dressing habits of the community. As this internal trade – together with the cultural values once conveyed by these handicrafts [31] – has been disappearing, the handcrafting skills are rapidly declining. Nonetheless, the transformation of these items from symbolic artefacts to commodities can represent a source of independent income for women [31], while also keeping the handcrafting skills alive as the products go into the market. The interface design was universal and similar to other online trading platform, except for having a background photo representing Bedouins travelling in the desert. Due to the limited time, students could not fully investigate an interface design that speaks to the specificity of their users, such as low literacy. Buy Bedouin, however, appealed to the community members in the delivery phase to the extent of showing openness towards trying online payments.

4.4 Prototype 4: Oasis Game

This group of students was interested in exploring cultural heritage practices inside Bedouin families. In the first workshop, they prepared a cultural probe in the shape of a traditional Bedouin tent with inside a box, a set of empty coloured cards, and one question written on a green card that said "What are the traditions that make you a proud Bedouin?". The probe was given to their participant who was asked to keep it for few days and use the empty cards to solicit the answers from his household. The

empty cards had different colours to distinguish the responses from males, females, and children in the family. The probe represented – together with the interviews – the students' way to understand better the cohesion and communication in the Bedouin family as they reported:

"*We were impressed by the answers, and how they were very different, we were also impressed by the women contribution in the probe, which we didn't quite expect it to happen that much, but it was a good thing from our point of view and the variety in generations was exactly what we were looking for*."

The mobile application design attempted to respond to the concern that young family members know less about their heritage as they start going to schools and interacting with modern technologies. The purpose of the app was then to encourage young Bedouins to discover more about their Bedouin heritage through something they are familiar with – mobile technology – with the addition of a gameplay element. The generational gap could therefore be bridged by the proposition of a digitised approach to Bedouin ICH. The designed gameplay element consisted of a crossword game for children/young people aged 8-20. The game presented a traditional Bedouin story that progresses with each completed level by the player.

Fig. 3 and 4. The game levels and an example of a puzzle.

The gameplay conveyed two parallel paths of learning. The first one was within the narrative of the game itself and would be read by the player. The second one was within puzzles in each game level that the player could need to ask an elder member of their family to find an answer to. In addition to facilitate the transmission of knowledge from the elder generation to the younger, the second path of learning could also be a way of strengthening intergenerational family bonding. The main screen of the game, which they called Oasis, featured a nomadic person and a camel and had the message "This is a game to introduce the Bedouin heritage". The game levels are shown in Fig. 3, in which the students used a desert theme to display the game stages. Fig. 4 shows one of the puzzles, a question about the name of a famous traditional Bedouin poem. The player had to sort the letters to get the correct answers.

5 Guidelines for engagement

The prototypes showed that the students engaged with various social aspects of the Bedouin culture. The proposed technology features clearly reflected the students' sincere attempts to accommodate the challenges Bedouins face to document and preserve their ICH. For instance, personal profiles and authentication were introduced to hold the documenter accountable and limit the dissemination of misrepresented ICH. The designs appealed to the Bedouins' sense of pride of their nomadic culture through using desert life themes such as the tent, falcons, and camels. Further, the prototypes spoke to the Bedouins general interests in poems, trade, and family life. In the final day of the school the community accepted the prototypes' features and designs as well as showed openness towards the next steps to be undertaken in collaboration with the students. Considering that these students are novices to HCI and ICH, we thought their accomplishments were very satisfactory for an 8-day course.

The research here presented focused on the ideal configurations for an extensive participation of the Bedouins from North-Central Egypt which can be supported by a digitally-mediated ICH documentation project. The approach involving students as partners in the research design meant that the steps taken to carry out the research were dealt with at a finer level of granularity and reflection, which allowed us to look back at any decision and approach taken and have an understating of the students' learning process. From this experience, we draw the following three guidelines that can provide guidance for community engagement in digitally-mediated ICH projects using design activities. The proposed guidelines hold a significant heuristic validity considering that they enabled the involvement in the design process of a culturally-distant community such as the Bedouins. The distance the students had to bridge mostly concerned them not being typical users of technology (with scattered extremely low digital literacy and gender-segregated use of the Internet) and their acute pride of Bedouin ICH, to the extent of barely accepting any mistakes from the students-researchers in terms of the subsequent representation of their heritage in the technological applications.

5.1 Focus on the benefits for the community

One common misconception in many digitally-mediated initiatives of a collaborative nature is the tendency to have a "faith based on the largely often untested belief that if we build the right tools to promote interaction, 'they' (our elusive users) will come" [50]. In other words, user-friendliness is not enough to foster participation. While we paid careful attention to propose functionalities that were consistent with the Bedouins digital literacy skills, the ethos of our approach went beyond the choice around suitable mobile technology. In fact, we aimed at putting the benefits for the community before the tool [50]. To foster participation, we found that identifying a purpose in technology in counteracting the historical tendencies that are affecting Bedouin ICH represented a much stronger motivational basis than easy-to-use applications. The adopted methodological framework – which consisted of a great attention to the human factor in the design process [36, 57] and an extensive use of ethnographic tools – gave the community space to self-express the beneficial outcomes of the prototypes' implementation, while also enabling the students to channel these benefits into ideas for design.

5.2 Promotion of motivation, ownership, and authenticity

Three further important elements to promote in order to enact participation in a bottom-up project of ICH documentation are motivation, ownership, and authenticity. As explained in the previous point, the motivation of participants was pursued by focusing on what they needed and wanted rather than on a unilateral proposition of technology or selection of what to document. Besides leading to an identification of the benefits for the ICH, this approach allows for a self-expression of cultural relevance from within the community. Ownership is an essential element of any community engagement project that aims at fostering an actual engagement of the participants [6, 27, 30, 32, 42]. A sense of ownership among the participants can grant the required commitment to pursue sustainability and longevity of a heritage project.

Our research design aimed at making the Bedouins 'own' the prototypes from the outset. This was done through a consistent inclusion of them into the decision-making process in all the stages of the research, so that the outcomes reflected and respected their expectations and needs. Finally, authenticity was granted through the possibility offered to the Bedouins to finally juxtapose in digital environments the misrepresentation that they feel is occurring in mainstream heritage.

5.3 Pursuit of a shared identity between facilitators and community members

Another important factor in community-led ICH initiatives is the presence of a shared identity between the users and the implementers of the projects [29]. However, this is not always possible in cross-cultural projects, in which the proposers of a project do not share often the same cultural background of the ICH gatekeepers. We worked around this circumstance by putting a great emphasis on the local aspects of the project. In fact, we deployed Egyptian students to engage into the design an Egyptian community, and the identification of issues around Bedouin ICH, the people designated to tackle these issues, and the digital solutions have all come from this research experience occurred within an Egyptian institution. The Bedouin community was located close to the science park where the project took place, so the members were all sharing geographical proximity with the students – all enrolled at Alexandria University – and one of the two instructors of the summer school. Besides, the choice of starting the recruitment off with the Bedouins working at the science park paid off, as the latter could vouch for the projects and invite the rest of the community by explaining purposes and importance. The Bedouins were also well disposed towards collaborating with local students – as young recipients whose potential formation of prejudice towards the Bedouin could have been alleviated – and welcomed them into discovering more about their culture and lifestyle.

6 Conclusions

In this paper, we identified these three guidelines as the main reasons for the success of our engagement practices, which produced a great extent of participation from the community side. More tangibly, four prototypes for ICH self-documentation were produced that reflect the ideas from the community in what and how to share, safeguard, or document, and serve as platforms to potentially and digitally counteract the historical tendencies that have been for long affecting the ICH of the Bedouins from North-Central Egypt.

Our research shows that by following an engaging route that a) puts the benefits to the community first, b) is attentive to the driving factors of the community while promoting the concepts of ownership and authenticity, and c) minimises the cultural distance between the users and the proposers/designers is an effective way to achieve

full participation in digitally-mediated ICH projects. These recommendations hold a strong value as they have been tested against challenges that could have been detrimental to the school. The fact that the community of users at issue tended to show non-exploratory mindsets and negative attitudes towards the smallest mistake could have thrown off the students. These attitudes were kept at bay by a careful deployment of an emphatic design. The extent of the participation allowed the implementation of four prototypes, each of which satisfied both the specific tendencies of Bedouin ICH and the users' expectations. Three months after the design, the four prototypes were presented at a dissemination event at Alexandria University, Egypt, where the community of Bedouin users reiterated their appreciation for the work done and their willingness to see a new phase of development of the prototypes into fully-fledged mobile applications. The team of researchers has been investigating suitable funding opportunities to bring the prototypes forward within a follow-up of the original participatory design. Developed mobile applications could achieve something unique for the Bedouins of North-Egypt in terms of providing them platforms for ICH documentation and preservation. The content produced through these apps would be stemming from the point of view of the insiders and could complete or address the wealth of material that is produced from external and expert-driven standpoints.

Acknowledgments. This work was supported by an Institutional Links grant, ID 275770217, under the Newton Fund/Newton-Mosharafa Fund partnership. The grant was funded by the UK Department for Business, Energy and Industrial Strategy and delivered by the British Council.

References

1. Abu-Lughod L.: Veiled Sentiments. Honor and Poetry in a Bedouin society, University of California Press (2016)
2. Affleck J., Kvan T.: A Virtual Community as the Context for Discursive Interpretation: A Role in Cultural Heritage Engagement, International Journal of Heritage Studies, 14(3), pp. 268--280 (2008)
3. Al-Krenawi A., Graham J.R.: Conflict Resolution Through a Traditional Ritual Among the Bedouin Arabs of the Negev. Ethnology, 38(2), pp. 163--174 (1999)
4. Barakat H.: The Arab World: Society, Culture, and State, University of California Press, (1993)
5. Barnstein-Tarrow N. (1978). Education of the Bedouin of the Negev in the Context of Radical Socio-Economic Change, Compare: A Journal of Comparative and International Education, 8(2), pp. 141--147 (1978)
6. Beel D., Wallace C., Webster G., Hai N.: The Geographies of Community History Digital Archives in Rural Scotland, Scottish Geographical Journal, 131(3-4), pp. 201--211 (2014)
7. Beltraán M.E., Ursa Y., de los Rios S., Cabrera-Umpiérrez M.F., Arredondo M.T., Páramo M., Prados B., Pérez L.M.: Engaging People with Cultural Heritage: Users' Perspective. In C. Stephanidis & M. Antona (Eds.), Universal Access in Human-Computer Interaction. Universal Access to Information and Knowledge, London, Springer, pp. 639--649 (2014)
8. Black H., Well G.: Global-Local Inter-Relationship in UNESCO World Heritage Sites. In P. Teo, T. C. Chang, & K. C. Ho (Eds.), Interconnected Worlds. Tourism in Southeast Asia, Oxford, Elsevier, pp. 121--136 (2001)
9. Blanco T., López-Forniés I., Zarazaga-Soria F.J.: Deconstructing the Tower of Babel: A Design Method to Improve Empathy and Teamwork Competences of Informatics Students, International Journal of Technology and Design Education, 27(2), pp. 307--328 (2017)
10. Blomberg J., Karasti H.: Ethnography: Positioning Ethnography Within Participatory Design. In J. Simonsen & T. Robertson (Eds.), Routledge International Handbook of Participatory Design, New York, NY, Routledge Mental Health, pp. 86--116 (2013)

11. Boehner K., Vertesi J., Sengers P., Dourish P.: How HCI Interprets the Probes. In: Proceedings of the 2007 SIGCHI Conference on Human Factors in Computing Systems, ACM, pp. 1077--1086 (2007)
12. British Design Council: A Study of the Design Process (no date) https://www.designcouncil.org.uk/sites/default/files/asset/document/ElevenLessons_Design_Council%20(2).pdf
13. Brous D.: The Uprooting: Education Void of Indigenous "Location-Specific" Knowledge Among Negev Bedouin Arabs in Southern Israel. In: D. Champagne, I. Abu-Saad (Eds.), Indigenous and Minority Education: International Perspectives on Empowerment, Beer Sheva, Ben Gurion University of the Negev, pp. 257--265 (2005)
14. Brown D., Nicholas G.: Protecting Indigenous Cultural Property in the Age of Digital Democracy: Institutional and Communal Responses to Canadian First Nations and Maori Heritage Concerns, Journal of Material Culture, 17(3), pp. 307--324 (2012)
15. Butcher J., Schaber F.: Undergraduates Design Learning in Multiple Partnerships: Joined Up Design for Academics, International Journal of Technology and Design Education, 23(3), pp. 567--579 (2013)
16. Campbell K.H.: Recent Recordings of Traditional Music from the Arabian Gulf and Saudi Arabia, Middle East Studies Association Bulletin, 30(1), pp. 37--40 (1996)
17. Chatty D.: From Camel to Truck: The Bedouin in the Modern World, Vantage Press (1986)
18. Clark R., Lewis R.M.: Re-Configuring Inclusion, Decolonising Practice: Digital Participation and Learning in Black Women's Community-Led Heritage, Journal of Adult and Continuing Education, 22(2), pp. 134--151 (2016)
19. Cohen A.P.: Informants. In: R. F. Ellen (Ed.), Ethnographic Research: A Guide to General Conduct, London, Academic Press, pp. 223--229 (1984)
20. Cole D.P.: Where Have the Bedouin Gone?, Anthropological Quarterly, 76(2), pp. 235--267 (2003)
21. Cole D.P., Altorki S.: Bedouin, Settlers, and Holiday-Makers: Egypt's Changing Northwest Coast, The American University in Cairo Press (1998)
22. Cook-Sather A., Bovill C., Felten P.: Engaging Students as Partners in Learning and Teaching: A Guide for Faculty, Jossey-Bass (2014)
23. Crabtree A.: Ethnography in Participatory Design. In: R.H. Chatfield, S. Kuhn, M. Muller (Eds.), Proceedings of the 1998 Participatory Design Conference, Palo Alto, CA, Computer Professionals for Social Responsibility, pp. 93--105 (1998)
24. Crooke E.: Heritage. In: S. Macdonald (Ed.), Museums and Communities, Malden, MA, Blackwell, pp. 170--185 (2006)
25. Etheredge L.: Middle East: Region in Transition. Syria, Lebanon, and Jordan, New York, NY, Britannica Educational Publishing (2011)
26. Filippucci P.: Heritage and Methodology: A View from Social Anthropology. In: L. Smith (Ed.), Uses of Heritage, Abingdon, Routledge, pp. 319--325 (2006)
27. Flinn A.: Community Histories, Community Archives: Some Opportunities and Challenges, Journal of the Society of Archivists, 28(2), pp. 151--176 (2007)
28. Flinn A.: Independent Community Archives and Community-Generated Content: 'Writing, Saving and Sharing our Histories', Convergence: The International Journal of Research into New Media Technologies, 16(1), pp. 39--51 (2010)
29. Flinn A.: Archives and their Communities: Collecting Histories, Challenging Heritage. In: G. Dawson (Ed.), Memory, Narrative and Histories: Critical Debates, Brighton, University of Brighton, pp. 19--35 (2012).
30. Giaccardi E., Palen L.: The Social Production of Heritage Through Cross-Media Interaction: Making Place for Place-Making, International Journal of Heritage Studies, 14(3), pp. 281--297 (2008)
31. Gilbert H.: Trapped by Tatriiz: Bedouin Handicrafts and Marginalization in South Sinai, Cloth and Culture, 11(2), pp. 128--139 (2013)
32. Giglitto D.: Using Wikis for Intangible Cultural Heritage in Scotland: Suitability and Empowerment, Ph.D. Dissertation, University of Aberdeen (2013)
33. Giglitto D., Lazem S., Preston A.: In the Eye of the Student: "An Intangible Cultural Heritage Experience, with a Human-Computer Interaction Twist". In: Proceedings of the 2018 SIGCHI Conference on Human Factors in Computing Systems, New York, NY, ACM (2018)

34. Healey M., Flint A., Harrington K.: Engagement Through Partnership: Students as Partners in Learning and Teaching in Higher Education, The Higher Education Academy (2014) https://www.heacademy.ac.uk/system/files/resources/Engagement_through_partnership.pdf
35. Helly D.: Egypt Country Report. 2013-2014 Preparatory Action 'Culture in the EU's External Relations'(2014) http://ec.europa.eu/assets/eac/culture/policy/international-cooperation/documents/country-reports/egypt_en.pdf
36. IDEO: Human Centered Design Toolkit (2009)
37. Kakos M., Fritzsche B.: Meta-Ethnography, E&E. Ethnography and Education, 12(2), pp. 129--133 (2017)
38. Karlgren K., Ramberg R., Artman H.: Designing Interaction: How Do Interaction Design Students Address Interaction?, International Journal of Technology and Design Education, 6(3), pp. 439--459 (2017)
39. Karlsson J.: Doing Visual Research with School Learners in South Africa, Visual Sociology, 16(2), pp. 23--37 (2008)
40. Kurin R.: Safeguarding Intangible Cultural Heritage in the 2003 UNESCO Convention: A Critical Appraisal, Museum International, 56(1–2), pp. 66--77 (2004)
41. Lazem S.: A Case Study for Sensitising Egyptian Engineering Students to User-Experience in Technology Design. In: Proceedings of the 7th Annual Symposium on Computing for Development, New York, NY, ACM (2016)
42. Mason R., Baveystock Z.: What Role Can Digital Heritage Play in the Re-Imagining of National Identities? England and its Icons. In: M. Anico, E. Peralta (Eds.), Heritage and Identity: Engagement and Demission in the Contemporary World, London, Routledge, pp. 15--28 (2008)
43. McCleery A., Bowers J.: The Experience in Scotland. In: P. Davis, M.L. Stefano (Eds.), The Routledge Companion to Intangible Cultural Heritage, London, Trevor & Francis, pp. 185--201 (2016)
44. Mercer-Mapstone L., Dvorakova S.L., Matthews K.E., Abbot S., Cheng B., Felten P., Knorr K., Marquis E., Shammas R., Swaim K.: A Systematic Literature Review of Students as Partners in Higher Education, International Journal for Students as Partners, 1(1), pp. 1--23 (2017)
45. Milligan L.: Insider-Outsider-Inbetweener? Researcher Positioning, Participative Methods and Cross-Cultural Educational Research, Compare: A Journal of Comparative and International Education, 46(2), pp. 235--250 (2014)
46. Muller M.J.: Participatory Design: The Third Space in HCI. In: J.A. Jacko, A. Sears (Eds.), The Human-Computer Interaction Handbook, Hillsdale, NJ, L. Erlbaum Associates Inc., pp. 1051--1068 (2003)
47. Murray G.W.: Sons of Ishmael. A Study of the Egyptian Bedouin, London, Routledge (2013)
48. Nitzky W.: Community Empowerment at the Periphery? Participatory Approaches to Heritage Protection in Guizhou, China. In: T. Blumenfield, H. Silverman (Eds.), Cultural Heritage Politics in China, New York, NY, Springer, pp. 205--232 (2013)
49. Ott M., Dagnino F.M., Pozzi F., Tavella M.: Widening Access to Intangible Cultural Heritage: Towards the Development of an Innovative Platform. In: C. Stephanidis, M. Antona (Eds.), Universal Access in Human-Computer Interaction. Universal Access to Information and Knowledge, London, Springer, pp. 705--713 (2014)
50. Palmer P.: Archives 2.0: If We Build it, Will They Come?, Ariadne, 60 (2009)
51. Pridmore P.: Children's Participation in Development for School Health, Compare: A Journal of Comparative and International Education, 30(1), pp. 103--113 (2010)
52. Robertson I.J.M.: Introduction: Heritage from Below. In: I.J.M. Robertson (Ed.), Heritage from Below, Farnham, Ashgate, pp. 1--28 (2012)
53. Rodil K., Winschiers-Theophilus H., Kapuire G.K, Stanley, C., Chivuno-Kuria, S.: Participatory Exploration of Digitizing Cultural Content: Getting Married. Are We Ready?. In: Proceedings of the 13th Participatory Design Conference: Short Papers, Industry Cases, Workshop Descriptions, Doctoral Consortium papers, and Keynote abstracts - Volume 2, New York, NY, ACM (204)
54. Samuel R.: Theatres of Memory, London, Verso (1994)
55. Scholze M.: Arrested Heritage: The Politics of Inscription into the UNESCO World Heritage List: The case of Agadez in Niger, Journal of Material Culture, 13(2), pp. 215--231 (2008)

56. Seale J.: Doing Student Voice Work in Higher Education: An Exploration of the Value of Participatory Methods, British Educational Research Journal, 36(6), pp. 995--1015 (2013)
57. Sharp H., Rogers Y., Preece J.: Interaction Design: Beyond Human-Computer Interaction, New York, NY, John Wiley & Sons (2007)
58. Tait E., MacLeod M., Beel B., Wallace C., Mellish C., Taylor, S.: Linking to the Past: An Analysis of Community Digital Heritage Initiatives, Aslib Proceedings, 65(6), pp. 564--580 (2013)
59. Trueba H.T., Jacobs L., Kirton E.: Cultural Conflict & Adaptation, London, RoutledgeFalmer (1990)
60. UNESCO: Convention for the Safeguarding of the Intangible Cultural Heritage (2003) https://ich.unesco.org/en/convention
61. UNESCO: Al-Sirah Al-Hilaliyyah Epic (2008) https://ich.unesco.org/en/RL/al-sirah-al-hilaliyyah-epic-00075
62. UNESCO: Tahteeb, Stick Game (2016) https://ich.unesco.org/en/RL/tahteeb-stick-game-01189
63. UNESCO: Mediterranean Living Heritage (MedLiHer) (no date) https://ich.unesco.org/en/medliher
64. Verma S., Foo S., Pang N.: Enduring Cultures: A Socio Cultural Toolkit. In: CONTENT 2012: The Fourth International Conference on Creative Content Technologies, pp. 45--48 (2012)
65. Vines J., Clarke R., Wright P., McCarthy J., Olivier P.: Configuring Participation: On How we Involve People in Design. In: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, New York, NY, ACM, pp. 429--438 (2013)
66. Zarandona J.A.G.: Heritage as a Cultural Measure in a Postcolonial Setting. In: L. MacDowall, M. Badham, E. Blomkamp, K. Dunphy (Eds.), Making Culture Count, London, Palgrave Macmillan, pp. 173--190 (2015)